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Residential mobile phone users complaints' in Spain

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Residential mobile phone users complaints' in Spain.

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Abstract

Consumer satisfaction is a key determinant of customer retention, profitability of operators, consumer welfare and a strategic variable for competition and international comparisons. Spain's mobile customer satisfaction is the lowest in the European Union according to recent EU studies (SMREC, 2013). Consumer complaints are numerous according to official statistics. In turn, consumer complaints (and how well they are dealt with) influence customer satisfaction and retention. This paper analyzes the determinants of the different types of complaints filed by residential consumers in Spain using the survey CIS (2009) and the report Ministerio de Industria (2012a). The first survey uses disaggregated information on 4,249 residential consumers while the report summarizes the complaints received by the Ministry of Industry's Telecommunications Customer Service Office. Econometric models are specified and estimated to quantify the effects. The results are used to characterize the profiles of typical complainers as well as the possible existence of a complaints divide due to income, age or education. Finally, policy recommendations are proposed to improve customer satisfaction and diminish the reasons for filing complaints.

Key words and phrases: Consumer satisfaction, complaints, mobile phones, residential consumers, survey data, econometric models.

JEL Classifications: C21, D12, D18, L52, L96.

1. Introduction.

The liberalization and re-regulation of telecommunications since the 1980s has been regarded as successful in many accounts. The main focus has been to regulate the relationships between competing firms, between regulators and firms, and between the regulators themselves.

The explicit aim of these regulations was to improve the welfare of customers, both individuals and firms. However, customer complaints are abundant, especially about mobile telecommunications services (Vidales, 2012). In 2012, Spain's Office of Telecommunications Users reported 29,720 complaints, 50.8% of them related to mobile telephony (Ministerio de Industria, 2013), while in 2011 they reported 32,448 complaints. The apparent decrease is due to the exclusion in 2012 of the Office's system of complaints for all small and medium enterprises, due to a saturation of services. This does not include complaints filed with the consumption authorities, both at the central and local levels.

Spanish mobile consumer satisfaction ranks the lowest in the European Union (Significant Marketing Research-European Commission [SMREC], 2012, p. 195), at a considerable distance from Bulgaria, which was the next-to-last country on the list. Moreover, this market was the second worst considered in the ranking of 51 Spanish markets, just above the mortgage market according to SMREC (2013).

[Figure 1 goes here]

Since mobile telecommunications markets are now mature, it may be time to focus directly on the relationships between firms and customers. This paper analyzes Spain's private individual consumers of mobile telecommunications' complaints and the factors associated with them.

Few studies have been found with a focus on individual consumers in Spain. Related studies include CIS (2009) that uses the same data as this paper. It includes descriptive statistics of the data, but no conclusions or policy recommendations, which are out of the scope of that report. Worth mentioning is also Ministerio de Industria (2013), which is a regulator of telecoms in Spain, and where user complaints are dealt with. This report contains only the basic statistics, like percentages, of the sample. It only

sometimes distinguishes by operators and does not offer any conclusions. A recent survey on the satisfaction of business customers was conducted by the *Comisión del Mercado de las Telecomunicaciones*, CMT, (2011). It provided relevant analysis pointing to the heterogeneity within business customers, and between business and residential customers, but did not reach conclusions comparable to those of the present study.

Recently, a series of empirical works analyzing consumer satisfaction, its determinants and its consequences, in the mobile telecommunications industry, were conducted in several countries. These studies can be divided into two categories: Confirmatory studies, which use data to test causal relationships in a particular theoretical model; and exploratory studies, which use data to infer causal relations. Since most confirmatory studies test the American Customer Satisfaction Index model (ACSI) or some of its variations/adaptations like the European Customer Satisfaction Index model (ECSI,) below is a brief look at these two models.

The ACSI and ECSI models

As is shown in Figure 2, the basic ACSI model (Fornell, Johnson, Anderson, Cha, & Bryant, 1996) posits that overall Consumer Satisfaction (CS) has three antecedents: Perceived Quality (PQ), Perceived Value (PV), and Customer Expectations (CE); and two consequences: Customer Complaints (CC) and Customer Loyalty (CL). PQ is the consumer's evaluation of the consumption experience and PV evaluates perceived quality relative to price. Both these two variables are expected to have a positive effect on overall satisfaction. CE is both backward and forward looking: it captures a consumer's prior consumption experience with the firm's product, and a prediction for its quality in the future. CE is expected to have a positive effect on CS and, because of rational expectations, on PQ and PV as well. The two consequences of the model are inspired in the exit-voice theory (Hirschman, 1970): when dissatisfied, a consumer may either quit buying (exit), or file a complaint (voice) in order to get some retribution. Therefore, an increase in overall satisfaction should increase CL and decrease CC. The final relation of the model, between CC and CL, reflects the ability of the firm for managing complaints: "When the relationship is positive, the implication is that the firm is successful in turning complaining customers into loyal customers. When negative, the firm's complaint handling has managed to make a bad situation even worse."

[Figure 2 goes here]

All of the variables in the ACSI model (CS, its consequences and precedents) are latent constructs that are obtained by operating survey questions (see Fornell et al., 1996).

The basic ECSI model (Eklöf, 2000), retains the basic structure of the ACSI model but incorporates Image (I) as a precedent (see Figure 2): According to consumer behavior and cognitive psychology theory, corporate image affects a consumer's perception and therefore it is a driver of CE, CS and CL. The ECSI model also challenges CC as a consequence for CS: although complaints are originated by dissatisfaction, complaint management and complaint resolution are opportunities to increase consumer satisfaction and therefore CC is also a driver of CS. Early versions of the ECSI model, considered complaint handling more important than complaints per se, and therefore CC was treated as a driver instead of a consequence of CS. Some recent versions of the ECSI model posit reciprocal causation between CC and CS (see Johnson et al., 2001 for an excellent discussion on the relation between CC and CS in satisfaction indexes).

[Figure 3 goes here]

Figure 3 shows complaints about mobile telephone services, and on 2010 there was an 8% of the surveyed who had no complaints, a 5% on 2011, and only 4% had no complaints in 2012. So, over the years the number of complaints is increasing. And that is an important point of our analysis.

A research question of the present paper is to assess how customer complaints influence customer satisfaction of residential consumers of mobile phones in Spain and the factors that may be associated to them.

Since it is not easy to file a complaint about telecommunications in Spain, an additional objective is to analyze the different ways to make a complaint and present the difficulties encountered along the way in each of them.

2. The Data.

The sample consists of a survey with data on 4,249 mobile consumers: "Satisfacción de usuarios de servicios de telecomunicación", conducted by Spain's Centro de

Investigaciones Sociológicas (CIS, 2009). The center is an official government body that produces high-quality statistics that are well-suited to the analysis. The CIS micro-data have been made freely available through the Internet (CIS, 2009). The basic tabulation of the survey is available on both the CIS and Ministerio de Industria (2009) websites. The survey's focus is individual private consumer satisfaction and includes questions about socio-demographics, different operators, satisfaction with fixed and mobile telephony, Internet, complaint resolutions, etc. The data was gathered using personal interviews.

[Table 1 goes here]

Table 1 contains complaints classified by operator. There are seven types of complaints: delay in establishing the service, coverage problems, incorrect billing, incorrect billing for services not used, breach of contract or commercial offer, difficulty in cancelling the service and difficulty in obtaining the required information.

Movistar, Vodafone and Orange have complaints about delay in establishing the service. Orange is the one which has more complaints, but it is only 1.79% of complaints about delay in establishing the service, while Vodafone and Movistar have 1.27% and 1.25%, respectively.

The most usual kind of complaint is about Coverage Problems. The company with the highest percentage of complaints about Coverage Problems is Orange with the 26.28% of complaints received being of this kind. Following in a decreasing degree of incidence of the total amount of complaints are Vodafone (20.43%), Yoigo (18.87%), Virtual Mobile Operator (17.39%). Lastly, Movistar has the lowest percentage of complaints about Coverage Problems, being that of 16.03%.

About incorrect billing, Orange is the operator with a higher rate of complaints (6.61%), while the operators with less complaint about incorrect billing are VMOs (1.45%).

Another type of complaints is incorrect billing, about services not used. The operator with the highest percentage of complaints is Orange (5.98%). Yoigo does not have any complaints.

VMOs do not have any complaints about breach of contract and difficulty in cancelling the service. Orange is the operator that has most complaints about breach of contract

(4.92%) and complaints about difficulty in obtaining the required information (9.17%). Yoigo has the most complaints about difficulty in cancelling the service (7.55%).

[Table 2 goes here]

Complaints are not resolved in all cases. On table 2 we have complaints which are resolved or not by operator. More than 80% of complaints are not resolved by the operator, and the consumer has to use other ways to resolve the complaint.

Yoigo and Movistar have the highest percentage of complaints not resolved (87.32% and 86.42%, respectively).

[Table 3 goes here]

If a consumer has a complaint, the main form of contact with the operator is calling customer care (over 70%). So it might be important for operators that their customer care service is up to the highest quality standards.

There are different ways to file a complaint: by website, by mail or fax... but the main way is calling customer care.

For Movistar almost 79% of complaints come through calls to the customer care service. 75% of complaints of Orange are received by its customer care service. Vodafone receives 70% of its complaints through customer care. Almost 63% of complaints of Yoigo come from calls to the customer care service. And, almost 53% of complaints of VMOs are received by calls to the customer care service.

[Table 4 goes here]

Table 4 contains a demographic profile of the respondents to the survey. The data is representative nationwide by gender, age, and major telecommunications carriers, thus making them appropriate for the analysis. The respective market shares by operator are Movistar (48.03%), Vodafone (30.34%), Orange (18.69%), Yoigo (1.69%), and virtual mobile operators, VMOs (1.26%).

There is an alternative source of data for quality from the Ministerio de Industria (2012b), but its reliability is limited since it is elaborated with self-reported data by the operators.

[Table 5 goes here]

The correlation matrix of complaints and satisfaction, in table 5, shows that the different types of complaints do not have sizeable linear correlations among themselves while they exhibit negative correlations with satisfaction overall.

3. Empirical models for customer satisfaction and complaints.

This section presents the results of the different models of customer satisfaction and their complaints. We base our empirical analysis on ACSI and ECSI models. Here, in order to approximate the relationships, general linear models are specified.

3.1. Overall satisfaction and different types of complaints.

All models are estimated using STATA 12. Then the White's test for heteroskedasticity is performed. Upon detecting heteroskedasticity, the covariance matrix of the estimated coefficients is estimated using the Eicker-White (Eicker, 1967; and White, 1980) heteroskedasticity consistent covariance matrix estimator. The empirical methodology is in the same spirit as in Gijón et al. (2013) and Garín-Muñoz et al. (2012).

The first model relates to the overall satisfaction to each type of complaint. The satisfaction scale ranged between 1 and 10, where 1 corresponds to the minimum satisfaction and 10 to the maximum.

The complaints variables are dummies that take the value 1 if at least one specific complaint has been filed in the last 12 months and 0 otherwise.

[Table 6 goes here]

The second column of table 6 shows that all the coefficients of complaints are negative and significant (except the one about the delay in establishing the service that is insignificant). As it was expected, if you file a complaint the satisfaction with your mobile operator is worse than if you do not have any complaint. Difficulty in obtaining the required information is the complaint that has higher effect on the overall satisfaction.

The third column of table 6 contains the estimates of a generalization of the previous equation, including sociodemographic variables. This third column shows that gender, education and nationality are significant and negative. So if you are a man, you are less satisfied with your operator. The same happens if you have a higher education level or if you are Spanish. Again, difficulty in obtaining the required information is the complaint which has the higher impact on the overall satisfaction (it can be observed that the same result occurs in the fourth and fifth columns).

The fourth column of table 6 is another variation of the second column, but now this estimation includes carriers: Vodafone, Orange, Yoigo and VMO (Movistar is used as a basis for comparison because it is the former incumbent). There are no significant changes with the complaints coefficients. That estimation shows that Vodafone and Yoigo are significant and positive. So if you have a contract with these operators you are more satisfied than if you have a contract with Movistar, Orange or a VMO.

Finally, the fifth column of table 6 includes sociodemographic variables and operators. Spaniards tend to be less satisfied than foreign nationals by -0.228 points. Males tend to be less satisfied than females by -0.129 points. The estimated coefficient is small and may point to a slightly different usage of mobile technology according to gender. The overall satisfaction is significantly affected by coverage problems -0.563, incorrect billing for services not used -0.467, incorrect billing -0.619, breach of contract or commercial offer -0.574, difficulty in cancelling the service -0.659, and difficulty in obtaining the required information -0.927.

The bottom of the fifth column contains the number of observations (3,577), the coefficient of determination (0.11), and the F test of joint significance (18.12) which is highly significant.

We have also used the variance inflation factor (VIF)¹ to assess multicollinearity. While some approximate multicollinearity does exist, VIF scores of less than 10 suggest that it will not significantly influence the efficiency and stability of the parameter estimates (Belsley et al., 1980).

¹ The variance inflation factor quantifies the severity of multicollinearity in an ordinary least square regression analysis.

3.2. *Satisfaction with Customer Care.*

In table 7 the dependent variable is the satisfaction with customer care². All the coefficients of the operators are significant, except VMO.

The satisfaction with customer care is significantly affected by difficulty in obtaining the required information -2.103, incorrect billing -0.696, difficulty in cancelling the service -0.545, and breach of contract or commercial offer -0.447.

An important point is that the coefficient of complaints about difficulty in obtaining the required information is -2.103 and significant. Note that satisfaction takes values from 1 to 10. Therefore having a complaint about obtaining the required information has a large and negative impact. If you file that complaint, you are 2 points less satisfied with your operator customer care.

[Table 7 goes here]

This second column of table 7 also shows that gender, education and nationality are significant and negative; age and expenditure are significant too, but positive. So if you are a man, have a higher level of education or are Spanish, you are less satisfied with your service.

3.3. *Satisfaction with Coverage.*

The third column of table 7 shows another equation in which the dependent variable is the satisfaction with coverage. All the coefficients of operators are significant and negative, except Yoigo which is not significant.

It is reasonable to hypothesize that satisfaction with coverage will be related to complaints of coverage problems. And if you have a complaint about coverage problems, the satisfaction will be 2.362 points lower than if you did not have any coverage problem at all.

The variable complaint still not resolved, is a dummy that takes the value 1 if the complaint was not resolved in the last 12 month and 0 otherwise. So, if the complaint is

² In this regression 2 outliers were detected, corresponding to residuals that are larger than 3 standard deviations. They are treated using one dummy variable for each.

still not resolved, the satisfaction with coverage is 0.288 points lower than if the complaint is resolved.

At the bottom of the column is the number of observations (3631), the coefficient of determination (0.24), and the F test of joint significance (331.38) which is highly significant. The variance covariance matrix of the estimated coefficients is estimated using the Eicker-White (White, 1980) estimator.

4. Conclusions.

Having established a link between complaints and the customer satisfaction of the mobile companies, we can conclude that are different ways to improve their satisfaction and reduce their complaints.

- There are complaints that have not been resolved directly with the operator, so the customer has to use other ways to try to resolve the complaint. This is the reason why a mechanism or appropriate regulatory action is required for the resolution of complaints, as suggested in López-Zorzano (2013).
- The main way to file a complaint by consumers is through customer service. However, in Gijon et al. (2013) it is said that the mean customer care satisfaction is only 6.5 which suggests that more attention should be paid to this service by the operators.
- Difficulty in obtaining information by the customer is the most usual complaint and one of the most negative and significant ones. This problem affects directly the satisfaction with customer care, so operators should take care of it.
- Orange is the operator which has the highest percentage of complains in all types of complaints of all the operators, except the one about difficulty in cancelling the service in which Yoigo has the highest complaint rate.
- Movistar is the operator which has less percentage of complaints, but in Gijon et al. (2013) Movistar is the operator which has less overall satisfaction.

Policy recommendations:

- Post a code of rights of consumers and users of telecommunications that include quality aspects of the services related to billing, customer service, etc. And that include quality assurance, and penalties for noncompliance.
- Conducting and analyzing satisfaction surveys periodically to consumers and small businesses, focusing on the most relevant, aspects of satisfaction. These surveys should be analyzed and published periodically.
- Streamline significantly the procedures of the Office of Users of Telecommunications to reduce management costs and delays in the resolutions.
- Transferring responsibilities on Consumer Affairs Ministry to the new National Commission of Markets and Competition.
- Alternatively you might consider creating a separate office for the resolution of conflicts with individual users and small and medium enterprises.
- Recovery of the costs of the Office of Users of Telecommunications for operators who are involved in litigations to prevent the shifting of costs from the operators to the Ministry.

One limitation of the study is that the 2009 data may seem outdated, but it must be noted that the purpose of this paper is to study relationships that are expected to be stable over time.

Another limitation of the study, due to the type of survey data, is the fact that the dynamics of an individual's satisfaction cannot be studied along time. Churning is a factor that may be worth studying using panel data if available.

While the results are specific to Spain, it would be interesting to analyze data from other countries, since it is possible that similar results hold elsewhere.

This study suggests the need for further research on this and related topics. A future research agenda would include beginning with a study on the determinants of the complaints by consumers of mobile operators in Spain and continuing with related research analyzing on mobile telecommunications consumer protection in Spain in

comparison with other European countries. A third topic is the study of the satisfaction indices reported by SMREC (2013) in order to analyze the reasons behind the significant decline in 2011 and why there was such a large gap between Spain and the rest of the Europe in 2011 and 2012.

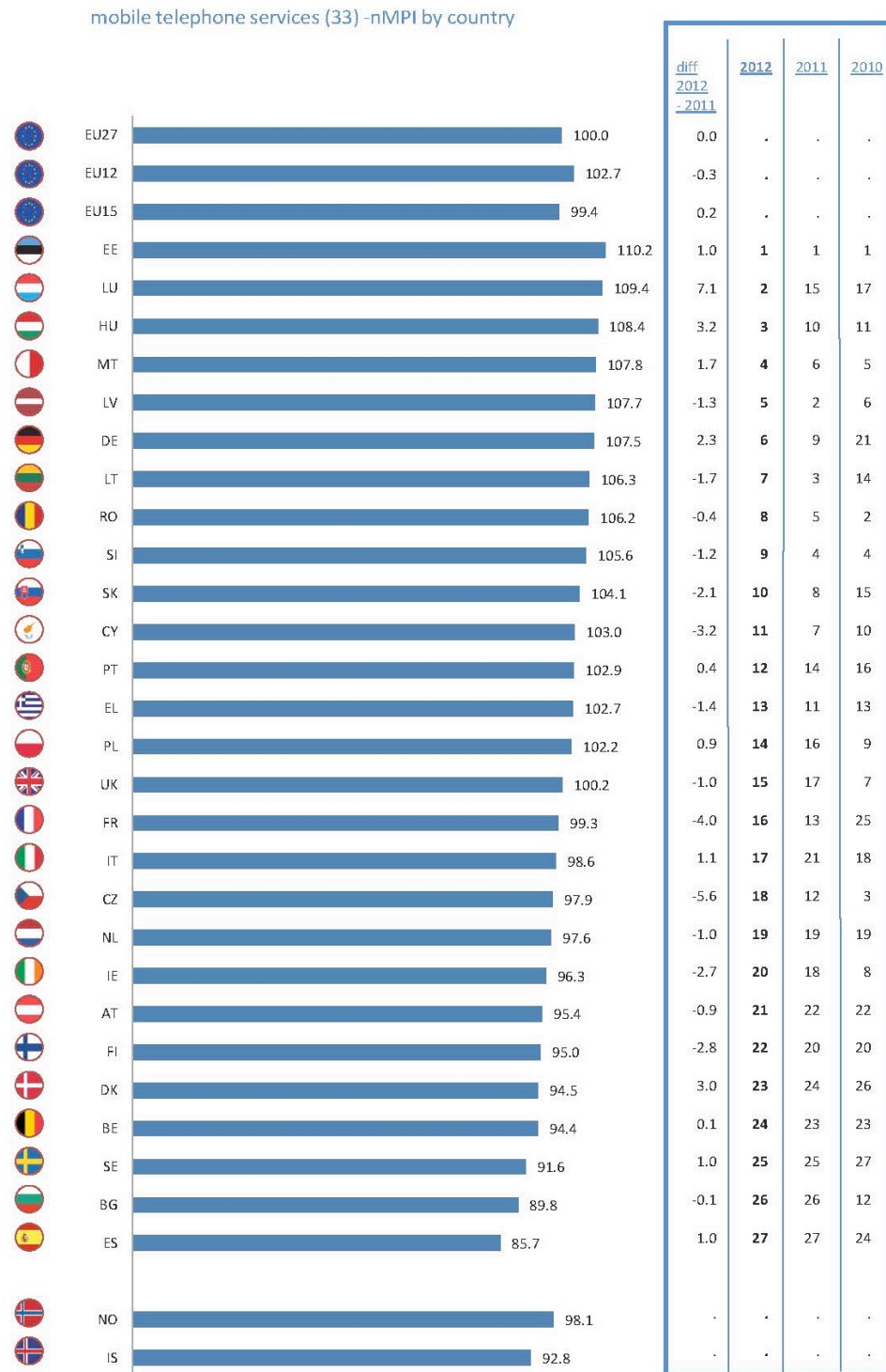
Future studies will address systematic international comparisons with different foreign countries, such as France, UK, Germany, Canada, USA, Australia and Colombia among others.

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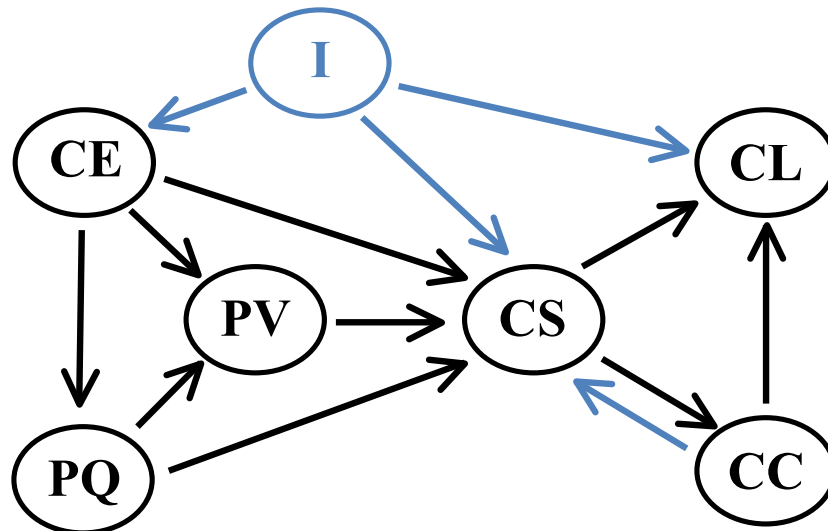
Figure 1. Satisfaction with mobile telephone services across Europe.



Source: Significant Marketing Research-European Commission, GFK, SMREC, (2012),
 “Monitoring consumer markets in the European Union”.

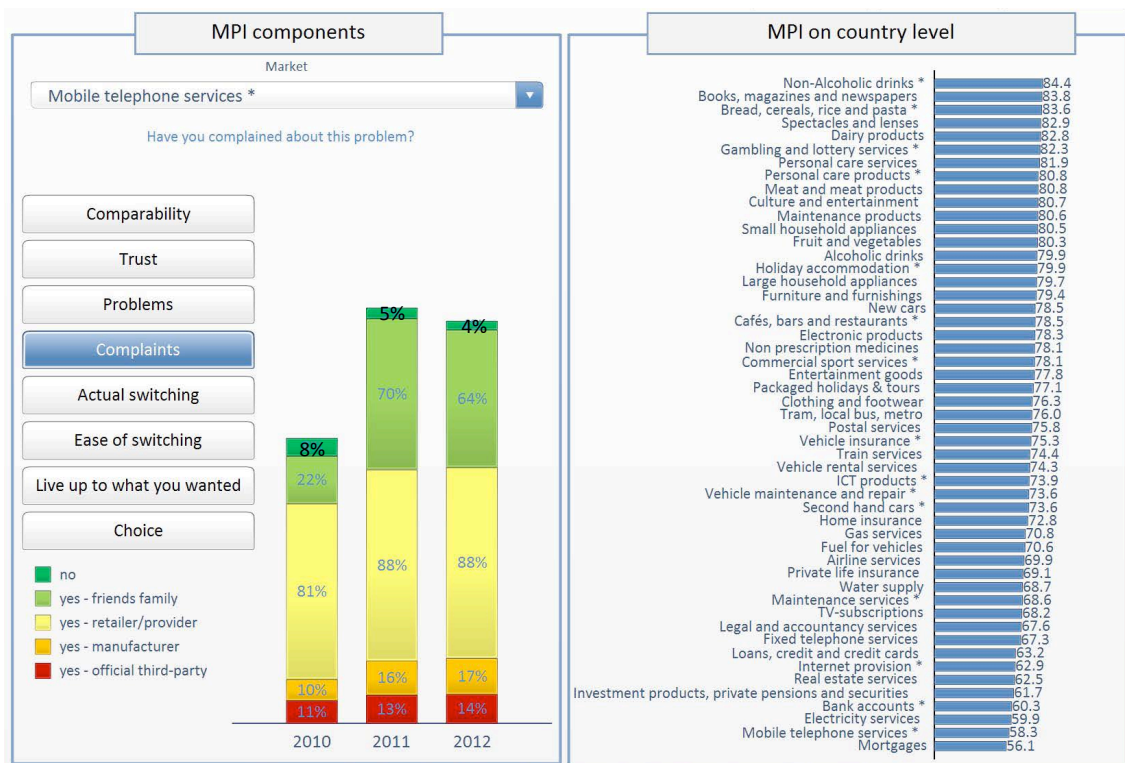
Figure 2. ACSI and ECSI models.

ACSI and ECSI models



Source: Gijón, C., Garín-Muñoz, T., Pérez-Amaral, T., & López-Zorzano, R. (2013).

Figure 3. Mobile telephone services complaints of Spain.



Source: Significant Marketing Research-European Commission, GFK, SMREC, (2013).
Monitoring consumer markets in the European Union. Scoreboard.

Table 1. Complaints by operator.

	MOVISTAR		VODAFONE		ORANGE		YOIGO		VMO	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
COMPLAINTS Delay in establishing the service	25	1.25	16	1.27	14	1.79	0	0	0	0
Coverage problems	321	16.03	259	20.43	205	26.28	10	18.87	12	17.39
Incorrect billing	97	4.96	64	5.16	51	6.61	1	1.89	1	1.45
Incorrect billing for services not used	93	4.73	71	5.70	46	5.98	0	0	2	2.86
Breach of contract or commercial offer	65	3.29	40	3.19	38	4.92	1	1.89	0	0
Difficulty in cancelling the service	53	2.71	32	2.58	30	3.90	4	7.55	0	0
Difficulty in obtaining the required information	133	6.67	78	6.21	71	9.17	4	7.55	3	4.23

Note: Complaints are dummy variables that take value 1 if there is a complaint and takes 0 if not. That is why the sum of all complaints does not add up to 100%.

Table 2. Complaints resolved directly with the operator.

	Yes	%	No	%
MOVISTAR	270	13.58	1718	86.42
VODAFONE	194	15.54	1054	84.46
ORANGE	131	17.08	636	82.92
YOIGO	9	12.68	62	87.32
VMO	8	15.09	45	84.91
Total	612	12.56	4261	87.44

Table 3. Main forms of contact by operator.

	MOVISTAR		VODAFONE		ORANGE		YOIGO		VMO	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Calling Customer Care	439	78.96	301	70.49	212	75.18	22	62.86	9	52.94
By website	10	1.8	18	4.22	8	2.84	2	5.71	2	11.76
By mail or fax	0	0	0	0	2	0.71	0	0	0	0
For several of the above methods	8	1.44	5	1.17	4	1.42	1	2.86	0	0
Others	99	17.81	103	24.12	56	19.86	10	28.57	6	35.29

Table 4. Demographic profile of respondents and descriptive statistics.

		Frequency	Percent
GENDER	Female	2,107	49.59
	Male	2,142	50.41
AGE	18-24	462	10.87
	25-34	1,008	23.72
	35-44	955	22.48
	45-54	735	17.30
	55-64	534	12.57
	65-74	368	8.66
	> 75	187	4.40
LEVEL OF STUDIES	No Studies	113	2.67
	Primary	2,226	52.60
	High School	1,059	25.02
	College	834	19.71
CITIZENSHIP	Spanish	3,778	89.31
	Dual (Spanish+Other)	92	2.17
	Foreign	360	8.51
CARRIER	Movistar	2,020	48.03
	Vodafone	1,276	30.34
	Orange	786	18.69
	Virtual Mobile Operator	53	1.26
	Yoigo	71	1.69
COMPLAINTS*	Delay in establishing the service	56	1.33
	Coverage problems	812	19.26
	Incorrect billing	214	5.18
	Incorrect billing for services not used	212	5.11
	Breach of contract or commercial offer	145	3.48
	Difficulty in cancelling the service	120	2.91
	Difficulty in obtaining the required information	291	6.95

* Complaints are dummy variables that take value 1 if there is a complaint and takes 0 if not. That is why the sum of all complaints does not add up to 100%.

Table 5. Correlation satisfaction overall and complaints.

	Satisfaction Overall	Delay in establishing the service	Coverage problems	Incorrect billing	Incorrect billing for services not used	Breach of contract or commercial offer	Difficulty in cancelling the service	Difficulty in obtaining the required information
Satisfaction Overall	1.0000							
Delay in establishing the service	-0.0791	1.0000						
Coverage problems	-0.1743	0.0457	1.0000					
Incorrect billing	-0.1859	0.1685	0.1035	1.0000				
Incorrect billing for services not used	-0.1833	0.1284	0.1081	0.5393	1.0000			
Breach of contract or commercial offer	-0.1679	0.1508	0.0844	0.2944	0.3614	1.0000		
Difficulty in cancelling the service	-0.1724	0.1568	0.0913	0.2399	0.3060	0.2770	1.0000	
Difficulty in obtaining the required information	-0.2204	0.1474	0.1236	0.3001	0.2740	0.2823	0.3518	1.0000

Table 6. Overall satisfaction and complaints.

		With sociodemographics	With operators	With operators and sociodemographics
	Overall Satisfaction	Overall Satisfaction	Overall Satisfaction	Overall Satisfaction
Delay in establishing the service	-.262 (.247)	-.233 (.262)	-.192 (.241)	-.150 (.255)
Coverage problems	-.609*** (.074)	-.578*** (.077)	-.603*** (.074)	-.563*** (.077)
Incorrect billing	-.572*** (.183)	-.617*** (.190)	-.576*** (.182)	-.619*** (.190)
Incorrect billing for services not used	-.440** (.181)	-.452** (.189)	-.462** (.180)	-.467** (.188)
Breach of contract or commercial offer	-.606*** (.230)	-.607** (.240)	-.572** (.229)	-.574** (.238)
Difficulty in cancelling the service	-.688*** (.237)	-.683*** (.246)	-.652*** (.237)	-.659*** (.247)
Difficulty in obtaining the required information	-.906*** (.150)	-.931*** (.157)	-.908*** (.150)	-.927*** (.158)
Age		.0007 (.002)		.002 (.002)
Male		-.116** (.057)		-.129** (.057)
Spaniard		-.238** (.094)		-.228** (.093)
Education		-.011* (.006)		-.012* (.006)
Expenditure		.0005 (.0008)		.0005 (.0008)
Vodafone			.121* (.063)	.161** (0.66)
Orange			-.024 (.074)	.006 (.078)
Yoigo			.526** (.219)	.547** (.224)
VMO			.032 (.252)	.330 (.241)
Constant	7.454*** (.030)	7.840*** (.165)	7.410*** (.040)	7.748*** (.172)
F	39.19	23.16	25.53	18.12
(p-value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
White test, χ^2	119.35	129.69	120.90	129.92
(p-value)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
R ²	0.0964	0.1064	0.0979	0.1090
n	3954	3600	3915	3577
Max. VIF	1.56	1.58	1.56	1.59

Notes: In parenthesis robust std. error. * Significant at 10%, ** significant at 5% and *** significant at 1%. We use heteroskedasticity consistent covariance matrix estimates (Eicker-White).

Table 7. Estimations of different satisfactions and complaints.

	Satisfaction with Customer Care	Satisfaction with coverage
Coverage problems		-2.362*** (.102)
Incorrect billing	-.696*** (.212)	
Breach of contract or commercial offer	-.447* (.254)	
Difficulty in cancelling the service	-.545** (.237)	
Difficulty in obtaining the required information	-2.103*** (.191)	
Customer contacted the company to resolve the issue	-.627*** (.138)	
Complaint still not resolved		-.288*** (.103)
Age	.006** (.003)	-.003 (.002)
Male	-.184** (.072)	.050 (.059)
Spaniard	-.367*** (.114)	-.222** (.092)
Education	-.014* (.008)	-.003 (.006)
Expenditure	.002* (.0009)	-.0008 (.001)
Vodafone	.352*** (.084)	-.275*** (.069)
Orange	.212** (.099)	-.531*** (.083)
Yoigo	.845*** (.236)	-.075 (.211)
VMO	.305 (.281)	-.547* (.281)
Constant	6.963*** (.215)	8.372*** (.202)
Number of outliers	2	16
F		
F	41.74	331.38
(p-value)	(0.0000)	(0.0000)
White test, χ^2		
White test, χ^2	54.56	113.40
(p-value)	(0.0000)	(0.0000)
R²		
R ²	0.1776	0.2401
n		
n	3109	3631
Max. VIF		
Max. VIF	1.69	1.26

Notes: In parenthesis robust std. error. * Significant at 10%, ** significant at 5% and *** significant at 1%. We use heteroskedasticity consistent covariance matrix estimates (Eicker-White).